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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/721,956

11/25/2003

Duk-Yong Kim

5020-1-002

5912

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07/27/2006

CHA & REITER, LLC
210 ROUTE 4 EAST STE 103
PARAMUS, NJ 07652

EXAMINER

HANNON, CHRISTIAN A

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/721,956	Applicant(s) KIM, DUK-YONG	
	Examiner Christian A. Hannon	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 3-8 is/are allowed.
- 6) ☒ Claim(s) 9 is/are rejected.
- 7) ☒ Claim(s) 10-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is response to applicant's response filed on 05/30/2006. Claims 1, 3-16 are now pending in the present application. **This action is made final.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 9 is rejected under 35 U.S.C. 102(b) as being anticipated by Singer et al (US 6,239,744), herein Singer.

Regarding claim 9, Singer et al teaches an antenna remote control apparatus for a base station in a mobile communication system comprising, a remote controller for combining a driving voltage for a motor used to control the beam direction of an antenna, a reference signal for measuring the rotation state of the motor, and an RF signal for mobile communication and transmitting the combined signal via a feeder cable (Figure 1, Item 50; Column 3, Lines 39-62; Singer) and an antenna controller for receiving the combined signal from the remote controller via the feeder cable (Figure 1, Item 41; Column 5, Lines 15-16; Singer), for dividing the combined signal into the reference signal, the motor driving voltage, and the RF signal, driving the motor using the motor driving voltage, and for outputting a variation in the reference signal depending on the rotation state of the motor to the remote controller via the feeder cable

(Figure 1, Item 40; Column 3, Lines 29-31, 44-50; Singer). Singer discloses a main controller (remote controller) and a microcontroller (antenna controller) connected by a coaxial cable (feeder cable) which provides signals for a reference signal, motor driving voltage and communication RF signal through the coaxial cable. The microcontroller uses this 'combined' data in order to function the antenna's position communication and motor properties and thereby reads on the currently recited claim language, and is therefore not patentably distinct over the prior art.

Allowable Subject Matter

3. Claims 1 & 3-8 as presently amended are allowed as set forth in the previous action.
4. Claims 10-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 10, Singer teaches the antenna remote control apparatus of claim 9, however Singer fails to go into further detail to provide for a frequency generator for generating the reference signal to measure the rotation state of the motor that controls the beam direction and tilting angle of the antenna, a motor voltage generator for generating the driving voltage required to drive the motor mounted to the antenna, a matcher for combining the output of the frequency generator with the output voltage of the motor voltage generator without interference and receiving the variation in the rotation state of the motor from the antenna controller, a bias T for combining the

output of the matcher with the RF signal and outputting the combined signal to the antenna controller via the feeder cable, a signal detector for detecting the variation in the rotation state of the motor from the signal received from the matcher, converting the variation to a square wave signal, and outputting the square wave signal and a controller for outputting a voltage and control signal for driving the motor and receiving a control result value from the signal detector, thereby continuously controlling the motor voltage generator and the frequency generator.

With respect to claim 11, Singer teaches the antenna remote control apparatus of claim 9, wherein the antenna. However Singer fails to provide further teaching of a signal divider for receiving the output signal of the bias T via the feeder cable, dividing the received signal into the RF signal for mobile communication, the motor driving voltage signal for driving the motor, and the reference signal for a variation in the beam direction and tilting angle of the antenna and outputting the divided signals, the motor for being driven upon receipt of the motor driving voltage from the signal divider to control the beam direction and tilting angle of the antenna and an encoder for changing a resistance value thereof according to the rotation state of the motor and outputting the reference signal changed according to the changed resistance value to the matcher.

Claims 12-16 are similarly objected to as they depend from objected claims 10 & 12.

Response to Arguments

5. Applicant's arguments with respect to claims 9-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian A. Hannon whose telephone number is (571) 272-7385. The examiner can normally be reached on Mon. - Fri. 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Christian A. Hannon


QUOCHIEN B. VUONG
PRIMARY EXAMINER